

THE  
BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXVIII.

THURSDAY, JUNE 4, 1863.

No. 18.

THREE CASES OF OPERATION FOR THE RADICAL CURE OF CON-  
GENITAL INGUINAL HERNIA;

WITH ONE SUCCESSFUL, ONE PARTIALLY SUCCESSFUL, AND ONE UNSUCCESSFUL RESULT.

BY DAVID W. CHEEVER, M.D., BOSTON.

[Communicated for the Boston Medical and Surgical Journal.]

CASE I.—Daniel S——, a healthy boy, eight years of age, has a congenital inguinal hernia of the right side, producing a tumor in the scrotum as large as a hen's egg. The ring is large enough to admit the fore-finger with ease, and to a considerable depth. The scrotum is not much thickened; the cord and testes are healthy, and there is no varicocele. The intestine is reducible by himself with great facility, and returns into the scrotum as soon as he assumes the erect posture. He has worn a truss, but has latterly been unable to keep the hernia up with it, and has left it off. Bowels regular; otherwise well. The healthy and uncomplicated state of the parts, and the constitution of the boy appearing favorable for an operation, it was decided to attempt a radical cure of this infirmity, which was increasing with his years.

March 21st.—The bowels having been cleared with castor oil, and the bladder emptied, he was etherized, placed on his back, and the hernia reduced, and kept up by the finger of an assistant pressing over the internal ring.

The skin of the scrotum was invaginated into the inguinal canal, and, with the cord lying beneath the back of the finger, the inner pillar of the aponeurosis of the *external oblique* muscle, and the conjoined tendon of the *internal oblique* and *transversalis*, were raised upon the tip of the finger towards the skin, about half an inch above the *pubes*. A curved needle, armed with a silver suture, was now entered over the tip of the finger from above the *pubes*, carried through the inner pillar and invaginated scrotum, and thence, protected by the finger, out just below the *pubes*, where the invaginated finger was first entered. The needle was now detached. Next, armed anew with another silver suture, it was entered from below, passed by the outer side of the finger through Poupart's ligament,

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and thence across the ring, emerging at the same point through the skin, just above the pubes, as the first suture had entered. The four ends of the silver suture were then passed through two holes of a large button, and clamped pretty tightly over it. The boy now vomited and strained violently from the ether, but the hernia did not come down. He was now put to bed on his back; given one teaspoonful of paregoric, to be repeated if necessary. He was ordered gruel; to remain strictly in the horizontal posture, and have his wound constantly wet with cold water.

With the exception of some pain and tenderness over the abdomen, accompanied with but little fever, everything went on well for three days. Some discharge began to appear around the button, and at the point of invagination.

March 24th.—He was given some castor oil. In the night he got up unperceived, walked to the water-closet, and had one large evacuation, and sat and strained, with stomach-ache, as he thinks, nearly an hour. Severe orchitis now supervened, which ran a course of about a week, and then gradually subsided. The testicle was much enlarged during the acute stage, and very painful. It was treated with cold applications, and opium internally. There was a good deal of purulent discharge around the stitches, and a sinus opened above the pubes. But the sutures held on; the bowels and urine were well; there was no descent of the intestine, and the testicle passed out of the acute stage. Three weeks and a half after the operation, the sutures were removed. It was noticeable, that although blackened by contact with pus elsewhere, yet at their points of perforation of the pillars of the ring, the wires were as bright and clean as when first introduced, showing that they had produced very little suppuration at the immediate point of puncture. In one week more the sinuses were closed; the hernia remained up; the scrotum was well invaginated, and everything promising. He was now, one month after the operation, allowed to get up and walk about the room. No truss was applied.

May 23d, *one month* after getting up, and two months after the operation, the scrotum remains firmly invaginated; the testicle painless, and about one third larger than the other; the inguinal canal appears filled with a dense deposit of lymph; the hernia remains up, and there is no bulging. He feels well; has regained his flesh and activity, and plays about with other boys. So far there is no disposition to a return of the hernia; though, of course, the cure cannot be called *radical* until verified by the lapse of many months. No truss was advised.

CASE II.—William M——, 12 years old, has a congenital inguinal hernia on the right side, of moderate size. The ring, however, is large, admitting the thumb without difficulty. Testicle, cord, and spermatic plexus of veins, healthy; otherwise strong and active. Has worn different trusses, which were made for him, for years,

but cannot keep it up with them. The difficulty is increasing as he grows.

April 13th.—After being etherized, and the hernia reduced and held up as before, an incision about three fourths of an inch long was made through the skin of the scrotum of the right side, at its lower part. The fascia of the scrotum was now dissected subcutaneously from the skin, to which it adheres only by loose cellular tissue, for a space about an inch and a half in diameter all round; or until the fascia could be invaginated into the inguinal canal, without puckering the skin. The forefinger of the right hand being placed over the cord, and invaginating the fascia of the scrotum as high up into the inguinal canal as possible, a needle, with the eye in the point, was next carried up along the finger and made to perforate the conjoined tendon and inner pillar near the internal ring. The skin over the point of the needle was then drawn a little inwards and upwards, and it was made to emerge, when it was threaded with a silver suture and withdrawn, leaving one end of the wire projecting above the *pubes*. Next, the finger was turned downwards and outwards beneath Poupart's ligament, pressing the cord back out of the way. The needle was next made to perforate Poupart's ligament, from within outwards, and as near the central point between the anterior superior spine of the *ilium* and the spine of the *pubes* as possible, and then, by drawing the skin downwards and outwards, the point was brought out, by a little manipulation, at the same hole where the first stitch emerged above the *pubes*. Here a loop of the suture was retained, and the needle again drawn back. The finger being now turned upwards and inwards, and the needle following it, it was made to pierce the inner pillar and triangular ligament at the edge of the *rectus*, and again brought out, for the third and last time, through the same puncture, above the *pubes*. The needle was now detached and the finger withdrawn. There were now left out above the *pubes*, two free ends of the wire suture, which had passed through the inner pillar, one near the internal ring, and the other near the edge of the *rectus* muscle; and a loop, whose other end was encircling Poupart's ligament, at a point nearly half way between the *pubes* and *ilium*. The loop and the free ends were now crossed and brought through two holes of a button, and clamped firmly over it. Previous to this, however, it was found, on passing the finger into the inguinal canal, that the fascia of the scrotum was tightly drawn up into this cavity, that the cord and testicle were free, and that on drawing the wires, the sides of the inguinal canal were approximated to each other.

It is, perhaps, right to add, that the instruments with which this operation was done were poor, and not entirely adapted to its difficulties, and that it was feared at the time that it might be but

imperfectly performed. As in the previous case, vomiting now recurred, and failed to bring down the hernia, and the same treatment was adopted as before.

There was no orchitis; very little pain; not a bad symptom; on the contrary, it was feared he was not getting up inflammation enough for a cure. There was a pretty free suppuration around the stitches, and through the incisions in the scrotum. The sutures were removed in two weeks and a half after the operation, and in four days more the wounds had closed. He was now, three weeks after the operation, allowed to sit up, and move about the chamber. The hernia remained up, and there was some induration along the course of the inguinal canal. The skin of the scrotum was not puckered at all.

May 13th.—About one fortnight after getting up, a slight protrusion was noticed at the internal ring, and the hernia slowly came down through the outer ring, towards the scrotum. Examination by the finger revealed the external ring reduced in size about one half, with firm, sharp and defined edges, showing it the result of actual approximation of its walls, and not of soft effused lymph. There was also so much thickening of the scrotal fascia and cellular tissue over the ring, as to preclude the performance of a secondary operation at once. He was therefore advised to wear a truss, with a weak spring and a flat pad, for some weeks, and then, if not entirely relieved, to submit to another operation, which, if it accomplished only so much as the first, afforded good promise of a radical cure.

CASE III.—John A—, aged 8 years, has a congenital inguinal hernia on the left side. The tumor in the scrotum is enormous for a child, reaching more than one third down the thigh. Considerable taxis is required to reduce the hernia; due more to its size, to a considerable thickening of the scrotal cellular tissue and a varicocele, than to any obstruction about the ring, which is so large as to admit readily the thumb, and to allow the fore-finger to sweep round under the *rectus*, down behind the pubes on to the bladder, upwards over the external iliac artery, and outwards into the femoral canal, beneath Poupart's ligament. The child looks a little lymphatic, and not of so tough a fibre as the former cases; yet his general health is good.

May 2d.—He was etherized, and operated on as in the second case, by a subcutaneous dissection of the scrotal fascia, two stitches through the inner pillar and one through the outer. The only points of difference in this operation were, that the common silk ligature was used instead of the silver suture, as being more easily manipulated, and that the stitches were passed by an instrument resembling a rather sharp aneurism needle. Very complete closure of the inguinal canal and external abdominal ring were obtained;



by drawing the stitches tight over a pad of soft wood, placed over the canal. Water dressing, paregoric and gruel, as in the former cases.

May 3d.—A little feverish; doing well.

4th and 5th.—Considerable swelling of scrotum, but not of testis. The point of suture inflamed and suppurating. No serious symptoms.

6th.—Free suppuration.

7th.—"Something gave way," probably the stitch through the outer pillar, and the intestine came partly down. There was a good deal of pus forming around the wound. No appearance of severe inflammation. As the stitches were doing no good, and only increasing the ulcerative action, they were removed on May 10th. The wounds then shortly closed, and the bowel resumed its normal situation before the operation. Nothing farther can be done at present.

I am disposed to ascribe the entire failure in the third case to several causes; as, first, want of sufficient constitutional vigor in the patient to get up a good adhesive inflammation, which degenerated at once into ulceration; the presence of thickened cellular tissue, and of a considerable varicocele in and about the canal, and, possibly, increased irritation and suppuration set up by the silk ligatures, over the silver wire used before. So far as the mere performance of the operation went, and the mechanical occlusion of the opening, it was more perfect than either of the others; both from practice, and also from my having a more suitable instrument.

The first case was operated on after Gerdy's method, one of the earliest of those attempted for the radical cure of hernia. The other two were done by the method recently introduced and recommended by Mr. John Wood, of London, Assistant Surgeon and Demonstrator of Anatomy at the King's College Hospital and School. A very minute description of his method, with illustrations, may be found in the *Medico-Chirurgical Transactions*, Vol. 43, 1860. And we propose, while speaking of the operation in general, to refer to some of the more prominent points and advantages which he claims as his own.

In Gerdy's method, the skin and fascia covering the sac are invaginated, and held in that position by a ligature thrust through the inter-columnar fascia and skin of the groin, till adhesion takes place at the point of ligature. The method proposed by Wurzer substitutes for the finger of the operator a wooden plug, variously modified, with the intent to fill the canal and openings, and to stretch them so much as to set up adhesive inflammation all round the invaginated sac. The danger of peritonitis, which is regarded by many as a serious objection to any operation of this kind, may be considered as pretty nearly equal in all. But the results of numerous cases operated on seem to prove that the danger is by

no means great, nor sufficient to deter the surgeon from endeavoring to perfect our means of cure of this common deformity. "A much more awkward objection," says Mr. Wood,\* "is drawn from the inefficiency of these methods. In all the cases of Wurzer's operation which have come under my observation, the result has been entirely unsatisfactory; the rupture re-descending on leaving off a truss. And this, I believe, is a very general impression among the surgeons of this country, France and Germany." He goes on to say that the causes of failure are as follows:

The inefficiency of the steps taken to cause adhesion of the surfaces of the posterior fold of the invaginated sac together, and to the posterior wall of the canal. Into this fold, forming thus a secondary sac, the descent of a knuckle of intestine is imminent.

The action of the plug is to dilate the opening and the canal, instead of contracting them; the external ring and canal being left very patulous after Wurzer's operation.

The elastic reaction of the skin, and the weight of the testis and scrotum tend, consequently, always to drag down the invaginated tissues. In cases, again, with narrow canals, failure is owing to the impossibility of invaginating the skin as far up as the internal ring. And much of the mass of inflammatory thickening and exudation, obtained by these operations, is temporary only, being sooner or later absorbed.

In order to avoid these sources of failure, Mr. Wood thought better to proceed upon a principle directly opposite to that of dilatation, namely, *that of drawing together and compressing by ligature the abdominal opening and inguinal canal, so as to cause their sides to adhere together.* And he also thought best to give the operation a *subcutaneous character*, so as to reach to a higher point within the canal, and to lessen the bulk of the transplanted tissue. These two principles combined he claims to be new in the cure of hernia.

After describing his operation at length, which we think it unnecessary to advert to again, and stating that he uses a strong, smooth hempen thread, waxed and soaped, for his sutures, he goes on to say, that the advantages of the double ligature are—

1st, That of additional security against immediate protrusion.

2d, That of producing action in the whole extent of the canal, by obtaining two tracks, and a broad intervening surface of adhesive effusion.

3d, The more effectual occlusion of the external ring, upon which the lower ligature directly acts. By tightening the string, the surgeon may obtain direct evidence of the effect of the ligatures in closing the canal, on placing his finger therein. If the stitches are properly placed, the canal will be found completely occluded.

The results intended to be obtained by this operation, Mr. Wood briefly recapitulates, as follows:—

\* Medico-Chirurgical Transactions, 1860, pp. 73-4.

The posterior and superior boundaries of the dilated canal are drawn forwards and downwards towards Poupart's ligament, and become united by inflammatory effusion, in the area of pressure exercised by the ligatures, to the anterior and inferior boundaries. By the use of the two ligatures, this takes place from the internal opening above, to the external ring below. The effect of this adhesion is to make the posterior wall act like a valve, excluding the bowel by closing against the anterior wall. This action is aided by the contraction of the cicatrized tissues, and increased by the subsequent downward traction of the testis and scrotum. In this way we have an assurance, that the older the cure and the more the pressure, the greater the mechanical resistance and security against the return of the protrusion. The spermatic cord is embraced by the contracting tissues in the groove behind Poupart's ligament, which protects it from undue pressure.

The consolidation and contraction of the tendinous boundaries of the canal, in the track of the ligatures, render them more capable of resisting pressure from within, and so increase the strength of the parts. It must be noticed that the primary dilatation of the canal in the formation of oblique inguinal hernia, is chiefly produced by the yielding of the superior and posterior walls at the upper part of the canal. In most patients who have a tendency to hernial protrusion, a bulging is apparent at the internal ring, from a deficiency in the development of the lower fibres of the internal oblique, which cover that opening in front. In muscular subjects, this is rendered much more prominent during the contractions of the *recti* muscles, which, by virtue of their compressing action upon the bowels, draw backwards with them their sheath, formed by the conjoined tendon above the point of splitting of the internal oblique portion of it. In these subjects there exists a disproportion between the muscular contracting force of the *recti*, and the tendinous and muscular resisting forces of the internal ring; and the upper part of the canal is opened, as it were, by the backward traction of the *recti* muscles upon the conjoined tendon, as well as by the yielding of the anterior wall. This action, associated with deficient development of the lower part of the internal oblique, appears to me to be the main cause of inguinal hernia in muscular subjects. It will be seen that the two internal ligature tracks of adhesion directly counteract the effects of this action, by drawing the cicatrix of the skin and anterior wall of the canal backward with the conjoined tendon, as may be seen upon patients cured by this operation, by a depression of the cicatrix during the action of the *recti* muscles.

The invaginated and transplanted fascia adheres on its opposing raw surfaces by means of a cord-like connective tissue, which is formed in front of and is adherent to the spermatic cord; by similar fibrous tissue, formed in the tracks of the ligatures, the fascia is further held firmly within the canal, and connected with the skin at

the upper cicatrix. To obtain this result, as well as to gain a more distinct perception of the parts within the canal, is an object clearly worth an incision half an inch long in the skin of the scrotum, and a separation of the fascia. Without the incision it is impossible to get a hold with the needle upon the conjoined tendon. But by passing the skin itself through the external ring, the borders of the ring are separated, and prevented from adhering together; while the closure or obliteration of the external ring by the lateral traction of the lower ligature drawing together the pillars, may be remarked as one of the original features of the operation, and as contributing much to its success.

In noticing the objections that have been made to the operation, it has been urged that the peritoneum, the spermatic cord, the epigastric vessels, and even the iliac vessels and the bowels, are endangered by the passage of the needle. But the invaginating finger is so placed as to fill up the internal opening, and keep out the bowel, and also to intervene between the spermatic cord, and the *fascia transversalis* covering the epigastric vessels and peritoneum, on the one hand, and the needle at the point of puncture, on the other. The best answer as to the danger of peritonitis is to be drawn from the total results of my (Wood's) cases, fifteen in number—all inguinal herniæ—in addition to the great number of cases in which Wurzur's plan, which interferes more with the peritoneum than mine, has been followed without bad results. The severity of an operation may be best judged by the duration of the after treatment. In only one case was the patient kept in bed more than a month—one was up on the ninth day, one on the eleventh, two on the twelfth, two on the fourteenth, four on the eighteenth; one, three weeks after; another, one month.

We may add to Mr. Wood's statements, that the three cases which head this article prove still more the immunity from serious danger of peritonitis, since all of them being congenital cases, and having no proper *sac*, the sutures necessarily traversed the unclosed peritoneal pouch, through which the testis originally descended; while in hernia, supervening later in life, the peritoneum may be pushed back out of the way, together with the intestine.

As to the efficacy of the operation, Mr. Wood presents in his report to the Medico-Chirurgical Society in 1860, six cases of cure; and many others are to be found in the British medical journals, since that date.

These six cases of cure vary in duration from the time of the operation, from eight months to nearly two years. One only is congenital; several are adults, who have worked regularly as laborers, harvesting, in dock-yards, &c., since the operation. Four of them have worn no truss from the moment of leaving their beds; the others have worn a truss temporarily. He advises no truss to be worn constantly, as it tends to promote absorption of the effused lymph by

pressure, in his opinion. If, however, the abdominal parietes be weak and bulging at the internal ring after the operation, he advises the use of a truss with a weak spring, when the patient is at work. Mr. Wood thinks the most likely cause of failure in this operation consists in the operator placing his ligatures too low, and closing the external ring only, whereby he fails to obtain a hold on the posterior wall of the canal.

Neither of the three children whose cases are reported in this paper, were able to keep up their herniæ with a truss, or were benefited by one when worn, although the instruments were made and fitted by the best manufacturers. It is extremely difficult to keep a truss well fitted on a young, restless and growing child, and we are inclined to think that the cases in which a hernia with a large ring, or a congenital one, is benefited permanently, much more cured, by a truss, are few in number, and the exception rather than the rule.

The opportunity which a subcutaneous dissection of the fascia over a large ring affords for the anatomical study of the internal parts, is not the least interesting feature of this method of operating. Many things become very plain and palpable, which cannot be felt through the skin; such are the conjoined tendon, of which a new and more accurate idea may be obtained than in the dissecting-room; the iliac artery, Poupart's ligament, the crural canal, &c.

The question as to the relative merits of a silver, or a silk or hempen suture in these operations, must be considered as yet undetermined. If the former excites less irritation, it is also much more difficult to manipulate with gentleness and certainty.

Two of the cases reported must be held to be *adhuc sub judice*. But we have thought best to make them public at this early day for the purpose of calling attention to an operation which has been lately much and successfully done in England; which seems so much more rational than those formerly proposed, and which is free, so far as the results prove anything, from any great risk of peritonitis, or of any evil more grave than orchitis, and the usual dangers of any form of suppuration.

After a sufficient time shall have elapsed to afford a definite determination, we hope to give the ultimate result in the first case, and the consequences of a secondary operation, should one be done, in the others.

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CASE OF RESECTION OF THE UPPER THIRD OF THE HUMERUS.

[Read before the Boston Society for Medical Improvement, and communicated for the Boston Medical and Surgical Journal.]

NEWBURN, N. C., May 3, 1863.

To W. J. DALE, M.D., Surgeon-General, State of Mass.

DEAR SIR,—I send you, for the "Medical Improvement Society," a photograph of a patient on whom I operated, Sept. 18th, 1862,  
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and a brief notice of whose case was published in the *Boston Med. and Surg. Journal* of Nov. 13th, 1862. There have been in this department, during the past year, four resections of the shoulder-joint, and two of the humerus in its upper third—leaving the joint intact. Of the first four, three made good recoveries. The fatal case was one in which a minié ball, having passed through the joint, buried itself under the scapula, and although diligent search was made at the time of operation, it could not then be discovered. Of the two cases of resection of humerus, one recovered, and one died from pyæmia. I have received the impression, from constant observation of these cases, that leaving the head of the humerus, in resection of its upper third, is of doubtful advantage. Its nutrition is imperfect, and the liability to serious constitutional disturbance seems greater than when the joint itself is removed.

The wound of John Dunham, whose picture accompanies this, was a very severe one. He was shot while on picket duty, Aug. 20th, 1862, a minié ball entering the left arm, three inches below the acromion, passing through the joint, under the left scapula, crossing the spinal column just under the skin, and lodging half way between the fourth dorsal vertebra and the right scapula. On the 18th September, I removed, by straight incision, the comminuted fragments of the glenoid cavity, including, of course, the attachment of the long head of the biceps, and the upper third of the humerus, just sparing the attachment of the deltoid. The recovery has been slow, but sure. After the first two weeks, constant pressure was made by an elastic band passing over the shoulder and elbow. The result is found to be a shortening of the arm 4 3/4 inches, very slight motion of the shoulder, tolerable freedom of the elbow, which constantly improves in extent of motion, and perfect use of the hand. The general health of the man could not be better. He now goes home, expecting to resume his old employment of railroad baggage-master.

In this connection, I will say that our remoteness from the homes of the soldiers has been to the surgeons of this department a great advantage, giving them rare opportunities for surgical observation and comparison. Instead of the wounded being sent away soon after an engagement, as has frequently happened elsewhere, they have generally remained here in charge of the operating surgeon until recovery was complete.

I remain always, very truly yours,

GEORGE DERBY, M.D., *Surg. 23d Mass. Vols.*

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THE admissions into the Smallpox Hospital, London, which, in May, 1862, were only 9, rose in September to 34, in November to 70, and in December to 137; and during the first three months of the present year, nearly 450 cases have been admitted, while many patients have been almost daily refused admission for want of room.—*Lond. Lancet.*

## CASE OF ADDISON'S DISEASE.

[Reported to the Boston Society for Medical Improvement, and communicated for the Boston Medical and Surgical Journal.]

By CALVIN ELLIS, M.D.

THE patient was a gentleman, 37 years of age, and belonged to a healthy family. In 1843 he had a severe attack of typhoid fever, from which he very slowly recovered. With this exception, he had always enjoyed good health. His labors as a lawyer during the last two years of his life were at times excessive. In the winter of 1860 and spring of 1861, he complained more of fatigue than usual, but this was attributed to his close application to business. The debility slowly increased, the countenance became sallow, and he lost some flesh, but continued to attend to his business as usual, until about the middle of October, when he visited Washington, but exertion caused so much fatigue that the journey afforded him no pleasure. On his return, he was attacked, in Philadelphia, with symptoms like those which indicate the approach of typhoid fever. He reached home on the 28th of October. The mind was perfectly clear, and but little complaint was then or afterwards made of anything except debility, and at times restlessness or sleeplessness. There was occasionally a little fever. The pulse varied from 90 to 100. The bowels were generally constipated, but great care was necessary in the administration of aperients, as faintness followed almost every discharge. The dejections were thin, and of a yellow color, like those of typhoid fever. Although the latter was not clearly indicated by the symptoms, and there was some doubt for a number of days, the appearance of an eruption on the abdomen, like that usually seen, seemed to make the diagnosis clear. The persistence of this, however, for some weeks, and the subsequent changes, make it probable that no such disease ever existed.

The prostration being marked, the treatment was of a tonic character and the diet nutritious, such articles of food being selected as were most easily digested. The appetite was deficient, and nausea was at times complained of. In the course of a month he began to improve a little, but never showed that disposition to rise, and the strong appetite, which so often indicate recovery from disease. Instead of wishing to do more than was safe, it was necessary to urge him to make any exertion. He very slowly gained, however, so that on November 17th he rode out, and continued to do so until the middle of December, when he returned to his office and spent several hours there daily for a short time; he then felt decidedly worse and confined himself mostly to the house, unless he rode out, which he frequently did. On Feb. 15th, he rode twenty miles in a close carriage, but was much fatigued on his return, and soon after was again confined to his bed. During all this time he gained no flesh, had but little appetite, and complain-



ed constantly of great fatigue and dyspnœa upon the slightest exertion. Upon one occasion he fainted soon after leaving the house in a carriage.

Repeated examinations of all the organs and functions failed to show any cause for the persistence of these alarming symptoms. The countenance had never lost the dark, sallow hue noticed early in the illness, and about the middle of March there was seen a decided dark-brown discoloration of the folds of the skin of the neck. The same was seen behind the ears, upon the shoulders and knees, but less marked. It was then ascertained that the change had existed for some time. An accurate examination could not be made, as it was necessary to divert the patient's mind from the subject. The worst fears were now expressed, but in a few days he began to improve. He had constantly complained of slight nausea, but the appetite now became quite strong, and his daily meals assumed great importance. The strength also improved, so that he went to the dinner table, saw his friends in the parlor, and rode out several times. This continued until a week before his death, but he did not gain flesh, and the discoloration of the skin never diminished. The strength and appetite again declined, but his condition was no more alarming than it had been months before, until the last two days, when nausea, debility and restlessness became very troublesome. Without any other marked change, he died on May 5th.

With the peculiar discoloration of the skin, the most striking symptoms were great debility and dyspnœa, the latter being, however, only another expression of the former, and never indicating any pulmonary disease. The mind was always clear, the pulse but slightly accelerated—though always very feeble, and there was very little fever. With these there was an entire absence of symptoms which indicated disease of any organ to which the attention of the physician is usually called.

At the *post-mortem* examination, the supra-renal capsules were found to be of twice or thrice the natural size, dense and disorganized, the tissue somewhat resembling tubercle. In some portions of the tissue was found fluid resembling recent pus. No other recent disease was found in the body. The discoloration of the skin was well-marked.

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### Army Medical Intelligence.

*To the Surgeon-General.*

NEWBURN, N. C., May 12th, 1863.

Sir,—Knowing your desire to be kept informed of the condition of the Massachusetts troops, I take the liberty to write you now concerning the regiment under my charge.

At present we are engaged in taking down and rebuilding our barracks. Strangely enough, these were built directly in front of Fort

Gaston, and within seventy-five feet of the 32-pounders which look from the embrasures. It is worthy of remark here, that these buildings were occupied by a regiment which suffered from the brain disease which prevailed here the past winter. The 17th moved into the barracks the same day the other regiment moved out (now nearly four months ago), and no case of that disease has yet occurred, showing, as I stated to you in my last letter, that the disease was not wholly due to green barracks, as it prevailed almost exclusively among those who had *recently* arrived here. For military reasons the buildings are now being taken down, as they long ago should have been for sanitary purposes. As now constructed, they allow only about 180 cubic feet of air to a man, with no means of ventilation. They are built not only too near the ground, but in some places the earth was actually removed to make room for the sills. In this region, where malaria exists to a great extent, it is highly important that buildings intended for troops should be raised at least four feet from the surface, in order that the paludal poison, which hugs the ground, may be as much as possible avoided. No part of the new barracks will be less than four feet from the ground. A ridge ventilator, open about one foot, and covered with a hood, will be made the entire length of the buildings. Ventilators, opening a foot in width, will be made flush with the floor. That these may be closed in windy or stormy weather, a cover will be hung (by a hinge upon the upper edge) upon the outside of the building. This arrangement is highly important, as the ground which we occupy is fine sand, which is raised with every gust of wind. It will never be necessary, however, to close these ventilators on both sides of the building at the same time. I am under obligations to the commander of the regiment (Lt.-Col. Fellows) and also the commander of the brigade (Col. Amory) for the cheerful and prompt manner in which they have ever adopted my suggestions, having for their object the preservation of the health or the comfort of the men.

This is a miserable country. For the past year we have battled constantly with the "shakes"; more recently with the brain affection, an account of which I gave you in my last letter. A new enemy now appears in the shape of chronic hepatitis. This disease exists only in the old regiments that were here the past summer; it does not appear to depend upon malaria, inasmuch as it originates indiscriminately among those who have suffered from fever and ague and those who have not. It is caused by long-continued exposure to heat, and is insidious in its attack.

The first symptom which attracts the notice of the patient is a swelling (the camp name of the disease is "swelled belly") in the epigastric region, accompanied with tenderness and a dull aching pain, which prevents him from wearing his accoutrements with ease. The waistband of his trousers is eight or ten inches too short; he has loss of appetite, nausea, and occasional vomiting. At this stage of the disease the patient is in good spirits, and treats his abdominal enlargement as a matter of joke; after a period of ten days these symptoms increase in intensity, the patient becomes depressed in spirits and gloomy, has pain in the right hypochondriac region, and difficulty of breathing while in the horizontal posture; tongue covered with yellowish fur. The enlarged liver can now be readily felt. The distension of the abdominal walls caused by the enlargement of the liver

(and in some cases of the spleen also), flatulence and ascites combined, increases slowly, or it may remain nearly stationary for some weeks; it never diminishes, but sooner or later increases until the abdomen is enormously distended.

At this stage of the disease, it is plain that the man will never be able to resume his duties, and he is accordingly discharged the service; hence no opportunity has been offered for a *post-mortem* examination.

My usual treatment has been, in the first instance—mercurial and saline cathartics, then calomel in alterative doses, iodide of potash, and cream of tartar as a laxative and diuretic. In some cases the nitro-muriatic acid has been given. Quinine appears to aggravate the disease. Externally, cupping, blisters, iodine paint, Croton oil, turpentine epithems, and ointment of the iodide of potash. These remedies have been used as indicated by the symptoms, apparently without in the least modifying the progress of the disease; latterly I have pursued nearly an expectant treatment, using only palliative remedies.

I have seen in all about 100 cases; 17 of these belonged to my own regiment. They are all discharged the service. None of them have improved, but all have grown worse, with every indication of a fatal termination. In order to ascertain whether a change of climate would influence the course of the disease, I procured sixty days' furlough for two of the most promising cases, and directed the men to apply at the Mass. Gen. Hospital for treatment; these cases have progressed unfavorably, and to-day I learn the men are discharged from service. Impressed as I am with the fact that none affected with this disease will recover while they remain in the service, especially at this season of the year and in this climate, where the originating cause continues to operate, I shall procure the discharge of all who may hereafter become affected with this disease, as soon as the diagnosis becomes clear. My practice has always been to give every man a chance for his life. When it is evident he can be of no further use to the Government, he should be discharged, if possible, before his disability becomes permanent, or he is beyond the hope of recovery. I am happy to say that this course has been approved by Medical Inspector Mussy, who was here a short time ago.

Many men become so debilitated from repeated attacks of malarious disease, and long-continued exposure in this climate, that unless great care is exercised, their lives may be lost, when by a timely discharge and removal to the North, they would soon regain their health.

I remain, respectfully, your obedient servant,

ISAAC F. GALLOUPE, *Surg. 17th Mass. Vols.*

## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JUNE 4, 1863.

In the month of January last, some editorial comments were suggested to us by the mention in the *Medical Times and Gazette* of Nov. 22, 1862, of two deaths which had then recently been caused, in one London hospital, by the inhalation of chloroform. Our attention is

again attracted to the subject by the statement of a correspondent of the same journal for April 11, 1863, that three more deaths have happened in the London hospitals, and that these, like the previous ones, have passed unnoticed by the medical journals. In a second communication to the *Medical Times and Gazette* of April 25th, this writer himself narrates them in the following language. "A few words will prove useful as to the latest deaths from chloroform in London. One is noted last week. A young woman, aged 29, Selina L., Edgeware Road, who died in one instant, apparently of syncope, as she was about to have a small tumor of the gum (epulis?) removed. No one to blame, it being one of those singular and miserable cases of idiosyncrasy that can scarcely be anticipated. A second case of death was at Guy's Hospital. A man put under chloroform for a dislocation to be reduced. He bore the anæsthetic one day well, but the reduction was not effected, and he was desired to come again, I think, the next day; but he was only half way under chloroform when his death, as a flash of lightning, suddenly occurred. The third case was removal of a small tumor, I believe an asphyxia case. This and the fourth, somewhat doubtful, are described in the *Social Science Review*."

Such are the flippant terms in which the loss of four lives is referred to, and that, too, when it is wholly within the power of man to avert these constantly-recurring catastrophes. Nor are these all the "recent deaths" from this anæsthetic, for in the *Lancet* of May 16, 1863, an inquest is stated to have been held "on Monday last" over the body of a Dr. Evans, of Dalston, near Carlisle, who also died of chloroform, which it appears he was in the habit of using for the relief of pain. If we are to believe the astounding statement contained in an elaborate article on the use of chloroform in obstetrics, to be found in the May number of the *Dublin Quarterly* (p. 362), that one individual claims, as his own personal experience, "to have seen about five hundred cases restored to life, or rescued, after they were pronounced dead" from the effects of this agent, is it not surprising that fatal results should not occur with even greater frequency than they do? We gather these items from the single batch of English journals which the last steamer has just brought us. Yet with all their significance, and admitting, as they seem ready to do, that chloroform is on its trial, its advocates are willing to amuse themselves with the idea that "a Faradisation circuit, with an interrupted, broken current," applied by sticking pins into the phrenic nerve and the diaphragm, is the long-looked for antidote to its deadly influence, capable of restoring life in any one of the above cases, had its aid been properly invoked.

Really, the Royal Medico-Chirurgical Society appear to have but a limited choice left open for them. They must either ask their countrymen to eat humble pie, abandon chloroform and adopt sulphuric ether as the only safe anæsthetic, or else, imitating an example which they have so often ridiculed, concentrate the labor of their committee in a grand expiring effort at "whitewashing" the terrible record and death roll of chloroform, which, it seems to us, they can never dare to display in all its naked truth.

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WHAT DOSE WILL KILL? *Messrs. Editors*,—The *Canada Lancet* for April 15, 1863 (politely sent to me by the publisher), has an article on

*Large Doses of Digitalis*, in which I find several facts detailed with a view to decide the query, "What dose will kill?"

In my lectures in Jefferson Medical College, many similar facts are annually developed, and my habit is to account for all of them on the principles involved in the doctrine of antagonism of poison and disease. To my mind, no other solution is philosophical or practicable, and hence I shall adhere to my present course, until convinced that a better can be substituted.

Those of my former pupils who may read this brief article will at once perceive that I am repeating on paper what they heard from my lips in the halls of their Alma Mater. My lecture on *Strychnia* is directly in point. It was there shown by facts, well authenticated, that the most virulent poisons, in the fullest doses, failed to kill. For instance, a man swallowed three grains of strychnia at a dose, and was saved by a more terrible poison, viz., nicotina. A dog was dreadfully poisoned by strychnia, suffering fearfully from the tetanic jerks induced by the alkaloid. In the hope of ending the agonies of the animal, his owner administered a spoonful of arsenious acid in milk. That dose saved the dog, and the cur ran about as though nothing had occurred to hurt him.

In another instance, a dog poisoned by strychnia was saved by the exhibition of hydrocyanic acid, in full poisoning dose.

Now substantially the same results have followed the use of digitalis as a remedy for existing disease. An old woman had to support a dropsical husband, and she became weary of it. An ounce of digitalis was procured, and the man with the ponderous belly had to swallow it. But did it kill him? Not at all, but just the reverse. It induced most copious and constant diuresis, and recovery ensued.

So it was in the Italian use of 100-grain doses of tartar emetic, to cure acute pneumonia. The dose was amply large enough to poison and kill. It would have done this, but for the doctrine of antagonism of poison and disease. The acute inflammation present counterpoised the otherwise fatal dose. The Italian doctors, in fact, said that the remedy spent its force on the lungs, and so the stomach was saved from injury.

The same doctrine accounts for the safety of exhibiting 600 grains of nitrate of potash in a few hours, to arrest a terrible hæmorrhage, or to cure an acute rheumatism.

Now, suppose a man to be perfectly well, and to swallow three grains of strychnia or twenty grains of arsenic, does any one doubt as to the issue? Death must inevitably ensue, if the case be left to itself, just because the poisons must develop their native powers when there is no inhering disease to antagonize their agency. On this very principle we employ our most efficient antidotes.

Why is it that a sober man, bitten by a rattlesnake, can be surely saved by simply making him dead drunk with whiskey or brandy? The latter would kill him, *per se*, if not bitten at all, but saves his life after the venomous wound has been inflicted. The only cases I have heard of in which the remedy has failed, were in men who had been for years notoriously intemperate. Whiskey in them had lost its power, by the force of habit, and of course could not save.

Silliman's Journal records cases of females saved from the poison-

ous action of arsenic by tobacco. This was given in order to empty the stomach of the poisonous dose. But the patients did not vomit at all, and yet recovered. The same administration would fail in a man who had all his life been a tobacco devotee.

The facts cited, in the *Canada Lancet*, by Dr. Bowman, all look in the same direction, and the query started by that gentleman in his paper finds its response in the doctrine I have named above, viz., the antagonism of poison and poison, or of poison and disease.

When a witness on the stand is asked what dose of any known poison will kill, his response must be non-committal. No man can give a direct answer. The habits of the patient control the result, often. The presence of severe disease has the same effect. The presence of a previously-administered poisonous dose is just as sure in its tendencies. So true is this last position, that I have ventured over and over again to say to my pupils, there is perhaps *no poison in the world for which some other poison is not a perfect antidote.*

Philadelphia.

THOS. D. MITCHELL, M.D.

MANAGEMENT OF LABOR AMONG THE INDIANS OF THE FAR WEST.—The treatment of the parturient female by the several tribes of Indians which inhabit the frontier north of California, known as the Indian Reservation, is as follows: During the incipient stage of labor, she shuts herself up alone; when this period passes, and the labor proper is ushered in, she calls for help, when from four to six females rush to her relief. It may be remarked that these assistants had been previously selected by herself. One of these women acts as midwife, and her orders are implicitly obeyed, in a manner which would be well worthy of imitation by those more enlightened. During the labor, the woman sits upon the ground, and, as her pains return, four of her aids lift her up, and then forcibly thrust her back to the earth again. This process is continued until near the close of her labor; as soon as the head of the child has been delivered, it is seized by the midwife, who then carefully aids the mother in its expulsion.

When the child is born, the midwife removes, without delay, the placenta; the mother now remains quiet for fifteen or twenty minutes, when she goes to the nearest spring or pool of water, in which she bathes herself thoroughly. She is next caused to undergo a species of steam-bath, which is prepared by digging a hole in the earth, in which are placed hot stones, which are covered with sticks, over which are placed herbs; next water is poured upon the stones, the patient, meanwhile, being placed over them in such a manner as to be exposed to the vapor thus generated; she is exposed to this *medicated* vapor bath, wrapped in blankets, for half a day, and thus returns to her hut, from which I have often seen her come forth, in two or three days afterwards, in comparatively good health, and resume her ordinary avocations.

The new-born child is seldom washed, but it is wiped, and wrapped tightly in its blanket, and then placed in a willow basket, of such form as to neatly fit the babe, an opening being left for the face, but over this opening a lid is placed, and kept closed for a few days. In this basket the child is borne upon the mother's back until it is five or six months old; it is, no doubt, owing to this mode of being carried, that

the exemption of the Indian race from spinal curvature is due.—Dr. W. P. MELENDY in the *San Francisco Medical Press*.

NOTE ON THE PATHOLOGY OF TERTIARY SYPHILIS. By Dr. DIDAY, LYONS. —Tertiary syphilis should not be considered as one of the periods—as one of the stages of evolution of a disease. It is a distinct pathological stage, which, by its clinical characters, its prognosis, and its treatment, may be sufficiently differentiated from the morbid condition, with which there would be the greatest probability of confounding it—secondary syphilis. Thus, secondary syphilis can be produced at pleasure upon any individual (supposing he have not attained immunity by a previous attack of the disease); its radical cure is the ordinary termination; finally, its lesions are contagious. With tertiary syphilis it is different; it is impossible to produce it at pleasure, or even to foresee the cases in which it will occur; in general it continues and perpetuates itself in spite of every remedy; finally, its lesions are not contagious. If we compare the two groups, the characters of which I have enumerated, it will be seen that the characters of secondary syphilis belong to the class of virulent affections, or inoculations by morbid secretions (such as vaccinia and the eruptive fevers), while those of tertiary syphilis belong to the class of diathesis (such as some skin diseases and rheumatism). Tertiary syphilis, in fact, is only syphilis which, from the condition of an intoxication, has become a diathesis—which, from being essentially transitory, has become permanent. But as this transformation is very far from taking place in all syphilitic patients, the pathologist ought to inquire under what circumstances it takes place. Is it due to an excessive duration of the secondary period? By no means; syphilis sometimes pre-exists for three or four years under the form of simple secondary lesions, without on that account necessarily passing into the tertiary form. Is it due to the absence of specific treatment? Not at all. Independent observation has shown that tertiary syphilis occurs as often on omission as after the employment of specifics during the secondary stage. The true cause of the occurrence of tertiary syphilis—the cause which entails it upon three out of twenty affected with the secondary disease—is undoubtedly the variable strength of the original virus, but especially the variable degree of resistance which the organism of different patients opposes to the action of this virus. Individuals originally endowed with little vital resistance, or in whom this power of resistance has been enfeebled, whether by age or dyscrasie—whether by privation of pure air, of proper food, of sleep—whether by the effects of errors of regimen or the depressing passions—these are the persons in whom we most often see syphilis assume the permanent form, and take on the characters of a diathesis. Experience, in verification of these rational conclusions, confirms, by the failure of medicines, what I have said regarding the special obstinacy of this condition. Mercury, in spite of its title of specific, fails almost invariably. Iodine, an admirable palliative, is no more than a palliative. To cure, if it be possible, a diathesis, requires not less than the prolonged action of all reconstituent influences; requires not less than a radical and durable change of alimentation, of residence, sometimes of profession; in short, of all the habitudes, whether social or moral. In such a change alone can we look for the secret of getting rid of the disease. This



is what few patients can be brought to understand, and what fewer still can be induced to put in execution: all which is an additional cause of the rarity of radical cures of tertiary syphilis.—*Edinburgh Med. Journal* from *Gazette Médicale de Lyon*.

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FOR TOBACCO SMOKERS.—Ferrier, an apothecary in Paris, proposes the following method of depriving the fumes of tobacco of their nicotine, and thus rendering them harmless to the smoker.

Cotton is soaked in a very dilute aqueous solution of tannic acid, strongly expressed and dried. Of the cotton thus impregnated, a pinch is put into a cigar- or pipe-holder, consisting of a tube, widened at one end and terminating at the other in a very narrow opening. The smaller end is put into the mouth—into the other end the cigar or pipe-stem. By the passage of the smoke through the cotton, the tannic acid absorbs all its nicotine. The cotton must of course be renewed from time to time.—*American Journal of Pharmacy* from *Wiltstein's Vierteljahrs*.

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QUININE IN THE INDIAN ARMY.—Dr. Macpherson, of Calcutta, informs us that since quinine has been extensively used among the troops in India, there has been a steady diminution of mortality; and whereas in 1830 the average percentage of deaths to cases of fever treated was 3.66, in 1856 it was only 1 per cent. in a body of 18,000 men scattered from Peshawur to Pegu.—*London Lancet*.

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REVALENTA.—M. Allewaert, a Belgian physician, has been at pains to examine and analyze the much advertised and lauded revalenta, especially because patients, beset in every book or newspaper they open by revalenta advertisements, insist upon their medical attendants prescribing the nostrum. By chemical examination, he finds that the revalenta is the flour of some leguminous plant, probably an exotic one, and very similar to pea or bean meal. It does not contain, as pretended, a large proportion of nutritive material, and, in fact, no more than ordinary pulse. The good effects recorded can easily be explained by the diet and restraint to which patients submit, and by noticing that success is recorded upon people who had previously been subjected to long courses of medicine. It is well known that, with such people, the giving up of physic, and the use of a moderate diet, ordered either by a homœopath or revalenta-dealer, will sometimes prove very efficacious.—*Ibid*.

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WE understand that Mr. Van Nostrand, 192 Broadway, has in press, and will shortly publish, a "*Manual of Instructions* for the guidance of Examining Surgeons in determining questions of admission into or discharge from the U. S. Army. Prepared at the request of the U. S. Sanitary Commission by Dr. John Ordronaux, Prof. of Medical Jurisprudence in Columbia College, New York."—*Am. Med. Times*.

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PROF. CHAS. A. LEE, writing for the *American Medical Times*, from Venice in Europe, says the Civil Hospital of that city, which dates as far back as the year 1485, is capable of accommodating from 1500 to 2000 patients. At the time of his visit there were 1000 inmates, under the charge of 11 principal surgeons and physicians, 14 assistant sur.

geons, 16 Sisters of Charity, 8 apothecaries, 1 director or acting principal, and 1 director-general. Both pauper and pay patients are admitted; the latter paying, according to accommodations, 88 cts., 55 cts., and 40 cts. per day.

DR. GEO. F. HORTON, of Terrytown, Pa., gives the results of some experiments made by him recently in the use of vaccine scabs obtained by inoculation from the cow. These results were unsatisfactory, vesication or scabbing following, he says, "not simply around the punctures, but also over various parts of the body and limbs, and, in children, occasionally upon the face."

A meeting of veterinary surgeons is to be held in New York on the 9th of June current, for the purpose of forming a National Society for the advancement and diffusion of veterinary knowledge.

At the thirty-third annual commencement of the New York College of Pharmacy, in March, five candidates received the degree of Graduate in Pharmacy; and at the commencement of the Philadelphia College of Pharmacy, also in March, twenty-two gentlemen received the same degree.

The United States Pharmacopœia of 1860, under the careful superintendence of the Editor, Dr. Bache, is now nearly finished—320 stereotyped pages having passed the Committee. The price, it is stated in the *American Journal of Pharmacy*, is to be \$1 a copy.

The ninth annual session of the American Dental Convention will take place on Tuesday, August 4th, at Saratoga Springs, N. Y.

#### VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, MAY 30th, 1863.

##### DEATHS.

	Males.	Females.	Total.
Deaths during the week	41	30	71
Ave. mortality of corresponding weeks for ten years, 1853—1863,	37.8	34.1	71.9
Average corrected to increased population	00	00	79.24
Death of persons above 90	0	0	0

##### Mortality from Prevailing Diseases.

Phthisis.	Croup.	Scar. Fev.	Pneumon.	Variola.	Dysentery.	Typ. Fever.	Diphtheria.
13	2	1	6	1	0	0	2

COMMUNICATIONS.—The following papers have been received:—Punctured Wound of the Brain.—Case of Ovariectomy.—Very large Collection of Hardened Faeces throughout the Large Intestine, and the greater part of the Small Intestine; Perforation, without the usual consequences.

ERRATUM.—On page 332, line 4 from bottom, for "unusual" read *usual*.

DIED.—In Danvers, May 26th, Dr. George Osgood.—At Dover, N. H., of apoplexy, Ex-Governor Noah Martin, M.D.—At Milton, May 18th, Elizabeth M., wife of Dr. C. C. Holmes.

DEATHS IN BOSTON for the week ending Saturday noon, May 30th, 71. Males, 41—Females, 30.—Abscess, 1—accident, 2—asthma, 1—inflammation of the bowels, 1—congestion of the brain, 1—disease of the brain, 2—inflammation of the brain, 2—burns, 1—cholera infantum, 1—cholera morbus, 1—consumption, 13—convulsions, 2—croup, 2—diphtheria, 2—dropsy, 3—dropsy of the brain, 3—drowned, 1—scarlet fever, 1—disease of the heart, 4—infantile disease, 3—intemperance, 2—disease of the liver, 1—inflammation of the lungs, 6—marasmus, 3—measles, 1—old age, 2—pleurisy, 1—puerperal disease, 1—smallpox, 1—teething, 1—tumor, 2—unknown, 2—whooping cough, 1.

Under 5 years of age, 24—between 5 and 20 years, 6—between 20 and 40 years, 17—between 40 and 60 years, 15—above 60 years, 9. Born in the United States, 44—Ireland, 24—other places, 3.